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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/878,677	06/11/2001	Jeff Hsieh	PHN 17,803	2022

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

TRAN, NHAN T

ART UNIT PAPER NUMBER

2622

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/878,677

Applicant(s)

HSIEH ET AL.

Examiner

Nhan T. Tran

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/8/2006 has been entered.

Response to Arguments

2. Applicant's arguments filed 8/8/2006 have been fully considered but they are not persuasive.

The Applicant filed the petitions to accept an unintentionally delayed claim for priority to International Application No. PCT/EP00/11652 filed on November 23, 2000 (published as WO 01/42902 A1 on June 14, 2001) which claims priority to European Application 99204181.4 filed December 10, 1999. The Applicant states that the applied reference in the Office Action does not qualify as prior art since the Applicant's effective filing date is December 10, 1999.

However, the petition is DISMISSED (see petition decision mailed 11/15/2006) because the international application No. PCT/EP00/11652 did not designate the United States of America pursuant to 37 CFR 1.78(a)(1). The Applicant did not argue for the

feature of the instant claimed invention against the applied art. Therefore, the previous art rejection is maintained.

Priority

3. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Europe on 12/10/1999. A claim for priority under 35 U.S.C. 119(a)-(d) **cannot** be based on said application since the United States application was filed *more than twelve months* thereafter.

It is also noted that applicant has not filed a certified copy of the European application No. 99204181.4 as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-13 & 15-20 are rejected under 35 U.S.C. 102(a) as being anticipated by Hsieh et al (Transpose Memory for Video Rate JPEG Compression on Highly Parallel Single-Chip Digital CMOS imager, IEEE Proceedings, September 10-13, 2000).

Regarding claim 1, Hsieh discloses a parallel data processing device comprising:
a sensor array for obtaining a signal (CMOS sensor array shown in Fig. 1),

an array of parallel processing elements (PE1-PE320 or Xetal processor array shown in Fig. 1) for processing the signal to obtain parallel streams of data (see sections 1 and 2 in Hsieh);

means (TSMM1-TSMM80) for shuffling (by virtue of crossbar switches) the parallel streams of data in a block-wise manner (see Fig. 2, section 3 for TSMM architecture), wherein a number of columns of the sensor array corresponding to different colors are shared by a same processing element of said array of parallel processing elements (see Fig. 1, abstract and section 2, wherein two columns of the sensor array corresponding to different colors in Bayer pattern are shared by one processing element PE since there are 640 columns but only 320 processing elements are implemented).

Regarding claim 2, Hsieh also discloses that the data shuffling means (TSMM1-TSMM80) comprise an array of addressable switch memory matrices (4x4 16-bit registers as shown in Fig. 2) which are coupled to a predetermined number of said processing elements (PE1-PE320). See section 3 for TSMM architecture.

Regarding claim 3, Hsieh further discloses that each switch memory matrix (4x4 16-bit matrix) comprises: a matrix of registers (10b); and a crossbar switch having a row-wise buses and column-wise buses being provided with switches (see Fig. 2), each register (10b) coupled to one row-wise bus and one column-wise bus of the crossbar

switch, each column bus coupled to a processing element of said array of parallel processing elements (PE1-PE320). See section 3 for TSMM architecture.

Regarding claim 4, it is clear that each switch memory matrix is a square matrix (a 4x4 matrix) described in section 3 for TSMM architecture.

Regarding claim 5, since two TSMMs are linked together as shown in Fig. 1, they are coupled two by two to each other.

Regarding claim 6, also disclosed by Hsieh is that the processing element (PE1-PE 320) comprises an accumulator, the accumulators of the predetermined number of processing elements being selectively addressable (see Fig. 1 and section 2).

Regarding claim 7, see the analysis of claim 1. Furthermore, Hsieh clearly discloses a digital CMOS camera (see section 1) comprising the parallel data processing device as analyzed in claim 1 for processing the signal (see section 2).

Regarding claim 8, it is clear that the CMOS sensor array is provided with RGB color filter array in Bayer pattern (see Abstract and Table 1).

Regarding claim 9, method claim 9 is corresponding to apparatus claim 1 and thus the same analysis is applied.

Regarding claim 10, it is seen that the sharing processor architecture shown in Fig. 1 and section 2 of Hsieh is constructed for RGB Bayer color filter of the sensor array (see claim 1). Thus, Hsieh also anticipates that the sensor array is provided with a color filter array (RGB color filter in Bayer pattern), and wherein the number of columns (i.e., 2 columns as analyzed in claim 1) that are shared by the same processor (one processor PE) depends on the color filter array.

Regarding claim 11, this claim is analyzed in the same manner as provided in claim 10 with an additional note that the Bayer pattern of RGB color filter inherently populates different colors in a row, wherein a number of different colors in a row is typically two (see Examiner's response to arguments above).

Regarding claims 12 & 13, see the analyses of claims 1 & 10, respectively.

Regarding claim 15, see the analysis of claim 11.

Regarding claims 16-20, see the analyses of claims 2-6, respectively.

Allowable Subject Matter

5. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or fairly suggest "said number of columns is two when said color filter array includes two different colors in a row; and said number of columns is three when said color filter array includes three different colors in a row."

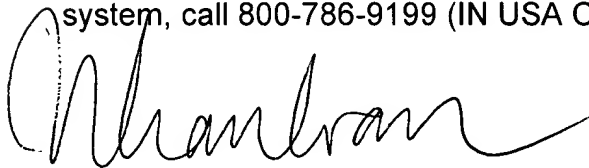
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Nhan Tran', with a stylized, flowing script.

NHAN T. TRAN
Patent Examiner